

20020109.qrp v02_n431.qrl.20020109

Date: Wed, 9 Jan 2002 19:03:09 EST
From: qrp-1@Lehigh.EDU
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: QRP-L digest 2431

QRP-L Digest 2431

Topics covered in this issue include:

- 1) [117235] Epiphyte-3 Substitute Parts
by "John A. Evans - N0HJ" <jaevans@codenet.net>
- 2) [117236] Re: Radios and Airport Security Post 9/11
by John Harper AE5X <ae5x@qsl.net>
- 3) [117237] Re: QSL Making
by "tmyers" <tmyers@AcademicPlanet.com>
- 4) [117238] Good info site
by ARDUJENSKI@aol.com
- 5) [117239] Glowire
by "Dennis Payton" <dpayton@fwi.com>
- 6) [117240] Where to get TT2 Kits
by "K5XU, Mike Duke" <k5xu@netdoor.com>
- 7) [117241] Re: Where to get TT2 Kits
by "Larry Przyborowski" <k3peg@yahoo.com>
- 8) [117242] Fox -- Cub VE3FAL Doing FB
by Todd Enders <enders@bolshoi.cc.misu.nodak.edu>
- 9) [117243] Cub Fox?
by "Trevor Jacobs" <fxtech@earthlink.net>
- 10) [117244] Wanted: Snap locks for old Drake TR-22
by "Daly, John" <daly@chuma1.cas.usf.edu>
- 11) [117245] FOX: Go figure...
by "Glenn Butzlaff" <gbutzlaff@wi.rr.com>
- 12) [117246] Tuesday Night Cub Hunt-WHO STOLE THE BAND
by Fred Lesnick <flesnick@tbaytel.net>
- 13) [117247] FOX: Truffle Log 1.0 for 1/9/02
by "Dave WR50" <dendav@dzn.com>
- 14) [117248] FS: QRP 100W Amp 40-10m
by Ed Kessler <edkess@pa.net>
- 15) [117249] K1 upper band choice on 4-band module
by "John Harper AE5X" <ae5x@qsl.net>
- 16) [117250] Re: Visual Acuity> bifocals
by Bruce Muscolino <w6toy@erols.com>
- 17) [117251] FOX W0UFO
by MertNellis@aol.com
- 18) [117252] RFI: 4.915 XTAL Params?
by "Rod N0RC" <rod@n0rc.com>
- 19) [117253] Re: [Elecraft] RFI: 4.915 XTAL Params?

by "Rod N0RC" <rod@n0rc.com>

20) [117254] Re: [GQRP] Altoids, toabcco tins etc
by Bruce Ratray <rattray@gpfn.sk.ca>

21) [117255] Re: [GQRP] Altoids, toabcco tins etc
by "George, W5YR" <w5yr@att.net>

22) [117256] Re: [GQRP] Altoids, toabcco tins etc
by "Ham" <KD5NWA@mbayona.com>

23) [117257] computing square roots, thanks and status
by "Patrick Cummins" <pcummins@misnet.com>

24) [117258] FS: W2ENY Tuner Module For Icom 706
by Ed Kessler <edkess@pa.net>

25) [117259] FS: QRP Rigs, Heathkit keyer
by fcs@juno.com

26) [117260] 1/2 wave 'tenna tuner
by Steven Weber <kd1jv@moose.ncia.net>

27) [117261] Re: 1/2 wave FYBO tuner
by "ss lyon" <sslyon@megalink.net>

28) [117262] Only 39 NorCal Cap kits left.
by "Doug Hendricks" <ki6ds@dph.dpol.net>

29) [117263] Re: Tuesday Night Cub Hunt-WHO STOLE THE BAND
by "Karl F. Larsen" <k5di@zianet.com>

30) [117264] Truffle Hunt tomorrow
by Richard Powell <ripowell@mpna.com>

31) [117265] New GALI amplifiers/tutorial
by "Paul Harden, NA5N" <na5n@rt66.com>

32) [117266] RE: FS: QRP Rigs and Heathkit Keyer
by fcs@juno.com

33) [117267] re: FS: W2ENY Tuner Module For Icom 706
by "George Heron N2APB" <n2apb@erols.com>

34) [117268] re: NorCal Cap Kits Return
by "George Heron N2APB" <n2apb@erols.com>

35) [117269] Ah Done Sumthin Technical
by hamjoel@juno.com

36) [117270] RE: [fpqrp] Ah Done Sumthin Technical
by Richard Powell <ripowell@mpna.com>

37) [117271] Re: [GQRP] Altoids, toabcco tins etc
by Bruce Ratray <rattray@gpfn.sk.ca>

38) [117272] Upcoming SM Kit?
by "Bill Jones" <kd7s@psnw.com>

39) [117273] Fwd: 100kHz calibrator
by Pete Burbank <plburbank@kih.net>

40) [117274] RE: [fpqrp] Ah Done Sumthin Technical
by k8cz@att.net

41) [117275] Re: Upcoming SM Kit?
by "Doug Hendricks" <ki6ds@dph.dpol.net>

42) [117276] Filters not centered...Spectrogram...adj. to the middle of the
passband
by "Jim Larsen" <al7fs2001@hotmail.com>

- 43) [117277] denco coils
by euramcom pages <mel@euramcom.freeseve.co.uk>
- 44) [117278] Test QRP-L again de AL7FS. No hope.
by "Jim Larsen" <al7fs2001@hotmail.com>
- 45) [117279] no smoke!
by hamjoel@juno.com
- 46) [117280] Power Management Contest
by Larry Cahoon <lejek@erols.com>
- 47) [117281] Tuner Module and Amp are SOLD!
by Ed Kessler <edkess@pa.net>
- 48) [117282] Re: Test QRP-L again de AL7FS. No hope.
by "Howard Kraus" <K2UD@adelphia.net>
- 49) [117283] New ADE mixers/tutorial
by "Paul Harden, NA5N" <na5n@rt66.com>

Date: Tue, 08 Jan 2002 17:20:36 -0700
From: "John A. Evans - N0HJ" <jaevans@codenet.net>
To: unlisted-recipients;; (no To-header on input)
Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [117235] Epiphyte-3 Substitute Parts
Message-ID: <3C3B8CD4.399AB0B3@codenet.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Greetings,

Has anyone built the epiphyte 3 with substitute parts for the amp and filter?? If so, I would like to hear what you used and how the subs worked out, both electrically and physically. I would like to proceed with my bare board kit but want to get these part subs worked out before I grab the remaining parts.

tnx es 72,
john - n0hj

Date: Tue, 08 Jan 2002 19:29:20 -0500
From: John Harper AE5X <ae5x@qsl.net>
To: QRP-L <qrp-l@lehigh.edu>
Subject: [117236] Re: Radios and Airport Security Post 9/11
Message-ID: <000301c198a4\$af379b00\$64e85043@johnharp>

MIME-version: 1.0
Content-type: text/plain; charset=iso-8859-1
Content-transfer-encoding: 7BIT

For airline security personnel,

a K1 is a "CB". An FT-1000 is also a "CB". So is a pair of Drake twins.
a power supply is a "battery charger".
a pair of paddles is a "switch".

Don't use words like "transceiver" or "Morse code".
You knew that already, didn't you?!

John Harper AE5X
Outdoor QRP & Lowband DXing: <http://www.qsl.net/ae5x>

Date: Tue, 8 Jan 2002 18:38:51 -0600
From: "tmyers" <tmyers@AcademicPlanet.com>
To: <djfulle@qwest.com>,
"Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>
Subject: [117237] Re: QSL Making
Message-ID: <006b01c198a6\$04328f60\$1600a8c0@newkid>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I have used 120# stock. Purchased at Office Max. I use a HP 697C now,
but in the past I have used many HP printers and Lasers as well. Not a
single problem with the paper. I don't have the wrapper now but it was
price reasonably or it would never have made it into my shack.

KQ5U, Terry
Spring, Texas

----- Original Message -----
From: David Fuller <djfulle@qwest.com>
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Sent: Tuesday, January 08, 2002 2:19 PM
Subject: QSL Making

> What are you guys using to print the QSL's on? (paper? cards?) do you

> have a size, manuf, or stock number
> Any suggestions would be appreciated
> -Dave
>
>

Date: Tue, 8 Jan 2002 19:43:38 EST
From: ARDUJENSKI@aol.com
To: nwq-1@scn.org, qrp-1@lehigh.edu
Subject: [117238] Good info site
Message-ID: <a1.20b422ec.296cec3a@aol.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

In doing a search for balun info I came across a site I had visited in the past but neglected to revisit in a while:

<http://www.hard-core-dx.com/>

No this is not some nasty site that you should avoid but rather a good collection of antenna, propagation, etc info. it is worth getting a large mug of coffee and visiting this site for an hour or so (smile).

Alan KB7MBI in Woodinville, WA
FISTS 5702 Proud member of ARRL

Date: Tue, 8 Jan 2002 20:21:45 -0500
From: "Dennis Payton" <dpayton@fwi.com>
To: <qrp-1@Lehigh.EDU>
Subject: [117239] Glowire
Message-ID: <006501c198ac\$02536060\$0ca854d1@locke>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I was working for somebody today and learned that they have an Internet business that sells electroluminescent wire called Glowire. I've never seen anything like it before and found it really fascinating. I bought a little kit that sells for \$25 but I think the basic wire sells for \$1.95 per foot. It requires a 2 Khz. driver which came with the kit, but I'd think one could be built fairly easily.

It uses very little power and I think it would do a great job of providing light for nighttime operation, or for decoration. It puts out a surprising amount of light and I plan to put it around the front panel of a rig I built in a lunch box so I can more easily operate at night.

Anyways, I thought other people might find it interesting and useful. If you do business with them, would you tell them their heating man recommended you? (Maybe I'll win a car or something!) They're a very nice family.

They also sell some other related stuff and their website is at <http://glowire.com/> .

Denny Payton N9JXY
Auburn, IN

Date: Tue, 8 Jan 2002 20:06:06 -0600
From: "K5XU, Mike Duke" <k5xu@netdoor.com>
To: <qrp-1@lehigh.edu>
Subject: [117240] Where to get TT2 Kits
Message-ID: <008501c198b2\$40b6b180\$63c194d0@k5xu>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I thought I had saved the message about a club that is selling Tuna Tin 2 kits, but it has vanished.

Would someone Please share this information with me again?

Also, has anyone adapted the TT2 into an altoids tin? I know about the Tiny Tornado, but am mainly interested in a transmitter.

Mike Duke, K5XU, President
American Council of Blind Radio Amateurs

Date: Tue, 8 Jan 2002 21:10:23 -0500
From: "Larry Przyborowski" <k3peg@yahoo.com>
To: <k5xu@netdoor.com>,
 "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

Subject: [117241] Re: Where to get TT2 Kits
Message-ID: <000501c198b2\$cc873c20\$6401a8c0@longhill1.md.home.com>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Take a look here--> <http://www.qsl.net/w0ch/tt2.htm>

BTW, I found this by searching for "TT2 kits" using www.google.com

72, Larry

Do You Yahoo!?
Get your free @yahoo.com address at <http://mail.yahoo.com>

Date: Tue, 8 Jan 2002 20:52:45 -0600
From: Todd Enders <enders@bolshoi.cc.misu.nodak.edu>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [117242] Fox -- Cub VE3FAL Doing FB
Message-ID: <200201090252.AA01095@bolshoi.cc.misu.nodak.edu>
Content-Type: text/plain
Mime-Version: 1.0 (NeXT Mail 4.2mach_patches v148.2)

Fred is doing a FB job as cub tonight. He's dispatched the pack, and now is looking for business around 7.054.5. Worked him early at 4W, and got him again a bit ago with 350 mW. Stop by and give him a go!

72/73,

Todd, AG0T

Date: Tue, 8 Jan 2002 18:57:54 -0800
From: "Trevor Jacobs" <fxtech@earthlink.net>
To: "Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [117243] Cub Fox?
Message-ID: <005001c198b9\$6ffe6800\$0a9fb2d1@tjacobs>
MIME-Version: 1.0
Content-Type: text/plain;

charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Anyone hear the Cub Fox tonight?

Trev

Date: Tue, 8 Jan 2002 21:45:51 -0500
From: "Daly, John" <daly@chuma1.cas.usf.edu>
To: "'qrp-1@Lehigh.EDU'" <qrp-1@Lehigh.EDU>
Subject: [117244] Wanted: Snap locks for old Drake TR-22
Message-ID: <BCD8CB6402DED411B45400A0C9D5DFC9028578D4@chuma1.cas.usf.edu>
MIME-Version: 1.0
Content-Type: text/plain

I know this is a stretch, but if anyone knows where I can locate the snap on chassis locks for a Drake TR-22 2 mtr. xcvr, please advise.

Tnx for the bandwidth.

72

John (WA9WHD)

Date: Tue, 8 Jan 2002 21:53:36 -0600
From: "Glenn Butzlaff" <gbutzlaff@wi.rr.com>
To: <qrp-1@lehigh.edu>
Subject: [117245] FOX: Go figure...
Message-ID: <001801c198c1\$3788b220\$d3bf1d41@wi.rr.com>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

What a difference a few days make. Thursday Fred, VE3FAL was less than ESP for me and the rest of my Cheesehead teammates. Tonite he is blasting into SE Wisconsin, in fact I had to turn the RF gain all the down on my SW40. Thanks for the pelt Fred.

Glenn, WE9K

Date: Tue, 08 Jan 2002 23:09:41 -0500
From: Fred Lesnick <flesnick@tbaytel.net>
To: "QFOX@egroups.com" <QFOX@egroups.com>, QRPL <qrp-1@Lehigh.EDU>
Subject: [117246] Tuesday Night Cub Hunt-WHO STOLE THE BAND
Message-ID: <3C3BC285.84924C14@tbaytel.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

AAAAAAAAaaaaaagggggghhhhh:

What happend ? Everything was going great , first contact was W0CH at 0200z, then the hounds were nipping at my tail , running at a good pace, pile up sounded good, then at 0248 z the RF Godz turned the big switch, not fair at all..Stayed on the frequency till 0400, and made a few but far between contacts.

Thanks to all who stuck around.

Worked 57 hounds, AG0T twicw, only cause he dropped to 350mw, and wanted to wake me up at 0250 after the band crapped out..

Ok , repoert tomorrow.

Good night all...

We hit +3 c today, (37 f) not bad for Jan in Northern Ontario....

Fred
VE3FAL

Date: Tue, 8 Jan 2002 21:41:12 -0700
From: "Dave WR50" <dendav@dzn.com>
To: "Flying Pigs" <fpqrp-1@mpna.com>, "QRPL" <qrp-1@lehigh.edu>
Subject: [117247] FOX: Truffle Log 1.0 for 1/9/02
Message-ID: <000d01c198c7\$df2bfb80\$a46357d1@dwinfield>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Thanks to all everyone who gave it a shot tonight. It seems that every time I pick a frequency that *seems* fairly clear of SSB, it pops up with 10 or 15 minutes left. I could hear callers, and could make out parts of a call, and nobody would come back to the ?.

Anyway, here's the log of the SSB dodgers from 1/9/02:

0131	7044 W5YR	559 TX	GEORGE	5W
0132	7044 N1TP	559 FL	TOM	5W
0133	7044 AC5JH	559 OK	TOM	5W
0135	7044 K5JHP	559 TX	BILL	5W
0136	7044 AA5O	559 LA	VERN	5W
0137	7044 AJ4AY	559 AL	JAY	5W
0139	7044 WA8WV	559 WV	DAVE	5W
0142	7044 K0EVZ	579 ND	DOC	5W
0143	7044 AF4PS	559 FL	MAC	3W
0144	7044 K8CV	559 MI	WALT	5W
0147	7044 K4GT	559 GA	JIM	5W
0149	7044 W5USJ	559 TX	CHUCK	5W
0154	7044 KA0EC	559 MN	GENE	5W
0156	7044 WB6BWZ	559 GA	MATT	5W
0157	7044 WE9K	559 WI	GLENN	5W
0159	7044 N8IE	559 OH	DAN	5W
0200	7044 WR5O	559 TX	DAVE	5W - The Truffle

Made it 16 this time around, which is a personal best.

It looks like 11 new states for the Flying Pig QRP WAS Challenge. There were a lot of new calls to me this time around, and I hope you keep coming back. I need the practice :-).

Thanks again for the call and I hope you caught Fred (who should have been that loud last Thursday night)!

Preview of coming attractions: Thursday's Truffle is scheduled to be Daryl K8FP.

72/73 es oo,

Dave Winfield, WR5O
El Paso, Texas DM61ts

FP# -109, SOC #371, ARS #996, Zombie #793

Outgoing mail is certified Virus Free.

Checked by AVG anti-virus system (<http://www.grisoft.com>).

Version: 6.0.313 / Virus Database: 174 - Release Date: 1/2/02

Date: Tue, 08 Jan 2002 23:40:12 -0500

From: Ed Kessler <edkess@pa.net>

To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [117248] FS: QRP 100W Amp 40-10m
Message-ID: <5.0.2.1.0.20020108232022.00a25ac0@mail.pa.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Good evening,

I know . . . this is not a QRP posting . . . mostly. While I work about 99% QRP there have been a few occasions where I wanted a bit more power (e.g., for an 80 meter SSB sked when QRN/M is bad). Up until a few weeks ago I used this amp with my K2 and it works great. Set it up on ANT 2 and quickly switch to higher power if needed. I do not have a "high" power rig. The reason I'm selling is that I just purchased another small amp and this one is excess to my needs. I was thinking of converting it to 6 meters, but hated to "fiddle" with the unit which is working so well.

Specs: PRIDE HFL 125 Bilinear Amplifier

1. Internal lowpass filters for 40, 20, 15, and 10 meters. (With this arrangement one can also use it on 30, 17, and 12 meters.)
2. I also built an external lowpass filter to use it on 80 meters and that works very nicely as well (best performance was with the amp set to 20 meters and then insert the 80 meter lowpass filter).
I also tried it on 160 meters but apparently the transformers and decoupling is not up to the test for that band. It transmitted fine up to about 40-50 watts, but at higher power it draws too much current on 160. (Again I had inserted a homebrew external lowpass to test this.)
3. With 2 - 4 watts of input drive the amp will produce around 100 watts or more on each band.
4. Input SWR is great on 40 through 10 meters, but at 80 and 160 I used the K2 autotuner to reduce this.
5. Very quiet RF-sensed relay activated T/R switching.
6. Requires about 20 amps at full power transmit.
7. No Manual.
8. About an 8 out of 10 cosmetically (no scratches or dings, but just looks old). Works great.

Asking \$125 plus about \$10 insured shipping.

If desired, I will include the 80m and 160m lowpass filters for an extra \$10. They are housed in an aluminum enclosure with a switch that either selects one of the filters or bypasses them to use the amp's internal filters. (Use this option at your own risk. Hi.)

Thanks for the bandwidth,
Ed AA3SJ

Date: Wed, 9 Jan 2002 06:28:30 -0500
From: "John Harper AE5X" <ae5x@qsl.net>
To: "QRP-L" <qrp-l@lehigh.edu>
Subject: [117249] K1 upper band choice on 4-band module
Message-ID: <000f01c19900\$c45a8180\$f0e498ac@oemcomputer>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Morning,

Just wondering from those of you who've built the 4-band module for your K1 if there are any nice-to-know tidbits of info now that the mod has been out a while. I'm trying to decide between 15 & 17 meters and recall that when the Sierra came out, the 10m module required a bit of "finesse" to align. That makes me lean more toward 17m for the K1 as the higher band may be a bit more finicky. Then again, maybe not. Anyone have any problems aligning either of these bands?

Thanks and 73,

John Harper AE5X
Outdoor QRP: <http://www.qsl.net/ae5x>

Date: Wed, 09 Jan 2002 09:39:36 -0500
From: Bruce Muscolino <w6toy@erols.com>
To: dafouchey@home.com
Cc: Low Power Amateur Radio Discussion <qrp-l@lehigh.edu>
Subject: [117250] Re: Visual Acuity> bifocals
Message-ID: <3C3C5628.422ACC9B@erols.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Dave,

There are a lot of different reasons for loss of visual acuity. Old age is just one. Because of old age you will possibly need bi-focals ot

even tri-focals. I went through the bi-focal stage in my early 50's. I got to the tri-focal era in my later 50's. Well and good, it didn't interrupt my normal life, I just had to learn to move my head a bit. I understand that at age 60 you need four times the amount of light to resolve detail!

BUT, as I said there are other reasons as well. Diabetes is one of the major reasons for loosing one's eyesight. It causes swelling of the veins in the eye and that causes distortion. Of left uncorrected the eventual cure may result in macular degeneration!

If you are loosing visual acuity, please also have your blood sugar levels checked! Diabetes is a silent killer! You don't know you have a problem until it is almost too late!

73

Date: Wed, 9 Jan 2002 10:18:37 EST
From: MertNellis@aol.com
To: qrp-1@lehigh.edu
Subject: [117251] FOX W0UFO
Message-ID: <63.4a5702d.296db94d@aol.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit

Hi there Hounds,
Are you ready for the second FOX chase of this new year? I plan on coming out of my hole some where between 7.036 and 7.037 and listening up 1. I'll use the usual formatyour call, RST, MN, Mert, 5w, your call, BK. I will try to remember to I.D. the proper (legal) amount this time (too busy last time).

Happy Hunting and good luck.

Mert W0UFO MNQRP

Date: Wed, 9 Jan 2002 08:24:10 -0700
From: "Rod N0RC" <rod@n0rc.com>
To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>,
"Elecraft-list" <elecraft@mailman.qth.net>
Subject: [117252] RFI: 4.915 XTAL Params?
Message-ID: <001601c19921\$b05203e0\$6401a8c0@greyrock>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

Folks,

Does anybody have, or can you obtain, the typical equivalent params for the 4.915 XTALS used in the K1 IF filter? I'd like to do a little modeling of my IF Filter mods with the AADE filter software.

73, Rod N0RC
Ft Collins, CO

Date: Wed, 9 Jan 2002 08:42:32 -0700
From: "Rod N0RC" <rod@n0rc.com>
To: "Rod N0RC" <rod@n0rc.com>,
"Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>,
Subject: [117253] Re: [Elecraft] RFI: 4.915 XTAL Params?
Message-ID: <000901c19924\$40d4e110\$6401a8c0@greyrock>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Never mind.

ECS has a wonderful website with the needed params. Their site also has a lot of other good tech data and app notes.
<http://www.ecsxtal.com/index.htm>

73, Rod N0RC
Ft Collins, CO

----- Original Message -----
From: "Rod N0RC" <rod@n0rc.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>;
"Elecraft-list" <elecraft@mailman.qth.net>
Sent: Wednesday, January 09, 2002 8:24 AM
Subject: [Elecraft] RFI: 4.915 XTAL Params?

> Folks,
>
> Does anybody have, or can you obtain, the typical equivalent params
> for the 4.915 XTALS used in the K1 IF filter? I'd like to do a
little
> modeling of my IF Filter mods with the AADE filter software.

Date: Wed, 9 Jan 2002 10:18:33 -0600 (CST)
From: Bruce Rattray <rattray@gpfn.sk.ca>
To: Low Power Group <qrp-1@LeHigh.EDU>,
QRP-Canada <qrp-canada@neale.gpfn.sk.ca>, <park@full-moon.com>
Cc: <gqrp@yahoogroups.com>
Subject: [117254] Re: [GQRP] Altoids, toabcco tins etc
Message-ID: <Pine.LNX.4.33.0201090935220.24190-100000@neale.gpfn.sk.ca>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

...picture this...
...there I was at the Safeway Store (food store) shopping for more groceries with my xyl Bonnie...just a few basic things eh?....we head to the check out...transfer the items to the little conveyor belt so the cashier can pack it and charge us...WAIT A MINUTE....my brain was alerting me to something...I glanced around and then activated my slower more intense, glancing mode, which I use at flea markets....my brain tugged me, robot-like, back to the entrance to the check out...

...the area suddenly became enveloped in a warm, oozing, comforting golden glow...I heard the honey-rich sounds of the Boston Philharmonic playing the 1812 Overture as I gazed upon the Holy Grail of QRP...I couldn't believe it....in a grocery store of all places.....

...and as the cannons fired, one after another, my hands moved in slow but sure & steady motion to the shelf in front of me...each hand, with a single combined purpose, gently cupped the Holy Grail and ever so lovingly placed it in on the conveyor belt...I hesitated, but only briefly, and my hands glided sure and steadily to repeat the sequence...

...their beauty struck me with every pleasant emotion that a human being is capable of having....50 grams each...one green...the other red...and there on the covers, safely protected with plastic wrapping in one inch high capital letters was....<sniff>.....ALTOIDS!!!!

...Bonnie turned to me with her "Oh boy, now-what look" plus the slightest of smiles and said "Why did you get those honey?"....I quietly told her...
...her smile broadened, quickly went from ear to ear as her hand moved swiftly to cover her open mouth in a flimsy attempt to stifle the open mouthed laugh as it barrelled up and out to fill the immediate area with the joy of the season...tears ran down her cheeks...

...I quickly offered Bonnie my handkerchief...small gurgles of delight could be heard in our immediate location and I was thankful for the now-subdued sounds...but as we quietly headed out of the store and were clear of the doors heading to our car, once again 120 decibels of laughter filled the air...Bonnie grasped the car door in order to remain standing upright....I looked at her...slowly, stealthily and now not so slowly my face began to crack from ear to ear as I added all the joy of the season to my laughter, which brought tears to my face as Bonnie & I, both supporting each other, gave vent to the most healthy and hopeful sounds that humans can make.....laughter!...

...as we drove home, I thought.....Bonnie, laughter, the QRP Holy Grail, (2 of them and only \$2.99 each!), good health, family, retirement...it really doesn't get any better than this!

..72/73 - Bruce (VE5RC+VE5QRP) QRP-C#1 QRP-L#886 ARCI#9683 Zombie#272
A-1 Operator Club - 10/10# 944 - QRP Borg#1 - Whiner#10 -
- VE5QRP SOC#11 - VE5RC SOC#12 - oo#148 - K2#2032 - COG#15 -
- Zone Alarm + AVG Virus Protection -
"QRP! How sweet it is!" "I am da man wit "DAH" paddle!"

On Wed, 9 Jan 2002 park@full-moon.com wrote:

> Hi,
>
> Marks and Spencers sell tins of "Strong Mints" which as far as I can
> tell is an exact clone of the Altoids! Cheaper too.
>
> I was thinking putting a TX inside and perhaps calling it a "Sparks TX"
>
> 72
>
> Pete G4CJX
>
>
>
> === Via the mailing list of the GQRP Club www.gqrp.com ===
>
> Your use of Yahoo! Groups is subject to <http://docs.yahoo.com/info/terms/>
>
>

Date: Wed, 09 Jan 2002 10:36:48 -0600
From: "George, W5YR" <w5yr@att.net>

To: rattray@gpfn.sk.ca
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [117255] Re: [GQRP] Altoids, toabcco tins etc
Message-ID: <3C3C71A0.95AC8217@att.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Bruce, have you considered getting a hobby?

72/73, George W5YR - the Yellow Rose of Texas
Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
Amateur Radio W5YR, in the 56th year and it just keeps getting better!
QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404
Icom IC-756PRO #02121 Kachina #91900556 IC-765 #02437

All incoming and outgoing email virus-checked by Norton Anti-Virus 2002

Bruce Rattray wrote:

>
> ...picture this...
> ...there I was at the Safeway Store (food store) shopping for more
> groceries with my xyl Bonnie...just a few basic things eh?....we head to
> the check out...transfer the items to the little conveyor belt so the
> cashier can pack it and charge us...WAIT A MINUTE....my brain was alerting
> me to something...I glanced around and then activated my slower more
> intense, glancing mode, which I use at flea markets....my brain tugged me,
> robot-like, back to the entrance to the check out...

Date: Wed, 9 Jan 2002 11:04:24 -0600
From: "Ham" <KD5NWA@mbayona.com>
To: <qrp-1@Lehigh.EDU>, "Ham" <KD5NWA@mbayona.com>
Subject: [117256] Re: [GQRP] Altoids, toabcco tins etc
Message-ID: <003e01c1992f\$b1152470\$373d010a@a000>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

I'm probably are going to make somebody mad, I bought 3 cases of altoids at the Walmart Employee Store for \$1.50 each case (24 Altoid Tins in a case). I wasn't aware of the Altoid Tin craze, so after me and my son ate the first case we threw out the tins. We are working on the second case, I'm going to save a couple for myself, then I'll let the group know when some

are available for free.

Cecil Bayona
KD5NWA

----- Original Message -----

> From: "George, W5YR" <w5yr@att.net>
> To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
> Sent: Wednesday, January 09, 2002 10:36 AM
> Subject: Re: [GQRP] Altoids, toabcco tins etc
>
>
> > Bruce, have you considered getting a hobby?
> >
> > 72/73, George W5YR - the Yellow Rose of Texas
> > Fairview, TX 30 mi NE of Dallas in Collin county EM13qe
> > Amateur Radio W5YR, in the 56th year and it just keeps getting better!
> > QRP-L 1373 NETXQRP 6 SOC 262 COG 8 FPQRP 404
> > Icom IC-756PRO #02121 Kachina #91900556 IC-765 #02437
> >
> > All incoming and outgoing email virus-checked by Norton Anti-Virus 2002
> >
> >
> > Bruce Rattray wrote:
> > >
> > > ...picture this...
> > > ...there I was at the Safeway Store (food store) shopping for more
> > > groceries with my xyl Bonnie...just a few basic things eh?....we head
> to
> > > the check out...transfer the items to the little conveyor belt so the
> > > cashier can pack it and charge us...WAIT A MINUTE....my brain was
> alerting
> > > me to something...I glanced around and then activated my slower more
> > > intense, glancing mode, which I use at flea markets....my brain tugged
> me,
> > > robot-like, back to the entrance to the check out...
> >
>

Date: Wed, 9 Jan 2002 11:03:56 -0600
From: "Patrick Cummins" <pcummins@misnet.com>
To: <fpqrp-l@mpna.com>
Cc: <qrp-l@lehigh.edu>
Subject: [117257] computing square roots, thanks and status
Message-ID: <000001c1992f\$b9172920\$69d194d0@pavilion>

MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hey y'all ..

Thanks to those of you who responded to my inquiry. Got some good info on where to look and what to do. Didn't get how I was taught to do square roots, but found the method elsewhere and it is as one person said, too complex to use in a program and too complex to explain via e=mail. For those interested the method can be found in the following book, which should be available in a library.

 "Mathematics from the birth of numbers" by Jan Gullberg, W.W.Norton 1997,

The method is located on pages 144 and 145, under the heading "Methods for real numbers and polynomials.

Anyway I will now go off to figure out the best methods to use, design and test some hardware and software (amid some gnashing of teeth and pulling of hair) and see what I can do. This will be a rather long term project (I am not going to devote most of my time to it) but will let you all know every couple of months if anything worthwhile is happening.

again thanks for the help.

72 and "oo's"

Patrick S. Cummins, W5PSC
pcummins@misnet.com

Date: Wed, 09 Jan 2002 12:06:35 -0500
From: Ed Kessler <edkess@pa.net>
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [117258] FS: W2ENY Tuner Module For Icom 706
Message-ID: <5.0.2.1.0.20020109120436.00a264e0@mail.pa.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

For Sale:

W2ENY Tuner Module for the Icom 706.

I bought this to use with my 706 but have since sold the rig. The module is new and unused. It is the 20 second delay version.

\$10.00 shipped to CONUS

73

Ed AA3SJ

Date: Wed, 9 Jan 2002 12:08:53 -0500
From: fcsww@juno.com
To: qrp-l@lehigh.edu
Subject: [117259] FS: QRP Rigs, Heathkit keyer
Message-ID: <20020109.120857.-3659661.4.fcsww@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

DSW40, \$100.
SW40+, \$80.
SST30, \$70.
Heathkit 1410 keyer \$25.
Yaesu VX1R handi \$110.
Each has manual.
Dick, W2SCF
fcsww@juno.com

Date: Wed, 09 Jan 2002 13:18:20 -0500
From: Steven Weber <kd1jv@moose.ncia.net>
To: qrp-l@lehigh.edu
Subject: [117260] 1/2 wave 'tenna tuner
Message-ID: <3.0.6.32.20020109131820.0079f6c0@mailhost.ncia.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Last summer I made a little 1/2 wave antenna tuner for use out on the Vermont AT. Unfortunately, I didn't try it before I left, and it turned out my rig didn't like the tuner, so the whole operation was a bust.

Since I still have a MFJ antenna analyzer we borrowed to tune the 6M squarlock, figured I'd use it to check a few things out, like the 1/2 wave tuner.

Turns out the thing had a wicked lot of reactance and very poor SWR as a result. I had made it with link coupling to the tank coil, a couple of turns. The tank is 16 turns on two stacked T2-68-2 toroids, (using two cores is probably over kill) and the cap is a 200 pfd poly variable from a junk transistor radio and tunes 7-14 Mhz.

I tried changing the number of turns on the link to no avail. Then I tried tapping directly to the coil, with similer results. Then I thought to add a series cap to coil tap. A 100 pfd cap to the third turn up from ground now gives me a 1:1 SWR on 40. Second turn up works for 30 and the first turn up works for 20, all with the same 100 pfd cap. I'll just use a toggle switch to select between the 1st and 3d tap for 20 and 40 operation.

I haven't tried going back to using the link coupling with the series cap yet, though it should do the trick also. Think I'll just leave it as it is now, with the direct connection to the tank coil, as it will be a little easier to switch between bands with that set up. Hopefully the tuner will now work the next time I try to use it - maybe for FYBO :-)

I haven't looked at the other 1/2 wave antenna designs sometimes posted here, so don't know if the series cap between the coax and coil is typical or not.

72,
Steve, KD1JV
"Melt Solder"
White Mountians of New Hampshire
<http://www.qsl.net/kd1jv/>

Date: Wed, 9 Jan 2002 13:39:50 -0500
From: "ss lyon" <sslyon@megalink.net>
To: <kd1jv@moose.ncia.net>,
"Low Power Amateur Radio Discussion" <qrp-l@lehigh.edu>
Subject: [117261] Re: 1/2 wave FYBO tuner
Message-ID: <00b301c1993d\$05952600\$038798ce@megalink.net>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Steve, the way the input link is usually done is with a series variable cap in the ground end of the link.

AAAHHHHhhhhhh... FYBO in Maine.... I can hardly wait.

73

AA1MY

Seabury & Sharon Lyon

99 Sparrowhawk Mtn Rd
Bethel ME, 04217 U.S.A.
207-836-2576

Virus Protection by Norton and ZoneAlarm

----- Original Message -----

From: "Steven Weber" <kd1jv@moose.ncia.net>

To: "Low Power Amateur Radio Discussion" <qrp-1@Lehigh.EDU>

Sent: Wednesday, January 09, 2002 1:18 PM

Subject: 1/2 wave 'tenna tuner

> Last summer I made a little 1/2 wave antenna tuner for use out on the
> Vermont AT. Unfortunately, I didn't try it before I left, and it turned out
> my rig didn't like the tuner, so the whole operation was a bust.
>
> Since I still have a MFJ antenna analyzer we borrowed to tune the 6M
> squarulo, figured I'd use it to check a few things out, like the 1/2 wave
> tuner.
>
> Turns out the thing had a wicked lot of reactance and very poor SWR as a
> result. I had made it with link coupling to the tank coil, a couple of
> turns. The tank is 16 turns on two stacked T2-68-2 toroids, (using two
> cores is probably over kill) and the cap is a 200 pfd poly variable from a
> junk transistor radio and tunes 7-14 Mhz.
>
> I tried changing the number of turns on the link to no avail. Then I tried
> tapping directly to the coil, with similer results. Then I thought to add
a
> series cap to coil tap. A 100 pfd cap to the third turn up from ground now
> gives me a 1:1 SWR on 40. Second turn up works for 30 and the first turn
up
> works for 20, all with the same 100 pfd cap. I'll just use a toggle switch
> to select between the 1st and 3d tap for 20 and 40 operation.
>
> I haven't tried going back to using the link coupling with the series cap
> yet, though it should do the trick also. Think I'll just leave it as it
is
> now, with the direct connection to the tank coil, as it will be a little
> easier to switch between bands with that set up. Hopefully the tuner will
> now work the next time I try to use it - maybe for FYBO :-)
>
> I haven't looked at the other 1/2 wave antenna designs sometimes posted
> here, so don't know if the series cap between the coax and coil is typical
> or not.
>
> 72,
> Steve, KD1JV

> "Melt Solder"
> White Mountians of New Hampshire
> <http://www.qsl.net/kd1jv/>

Date: Wed, 9 Jan 2002 11:12:47 -0800
From: "Doug Hendricks" <ki6ds@dph.dpol.net>
To: <qrp-1@Lehigh.EDU>
Subject: [117262] Only 39 NorCal Cap kits left.
Message-ID: <02af01c19941\$a40e2940\$4a0b0d0a@dph.dpol.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Guys, wow what a fantastic response. There are only 39 NorCal Cap kits left. 61 sold in 24 hours!! In case you missed the original announcement, here it is again. Hurry and order if you want one.

Info below from original posting:

Guys, due to many, many requests, we have decided to do another run of the NorCal Cap kits. Here is what you will get in the kit: 20 of each of the following values, all NPO disc ceramic except for the .01 and .1 which are Mono Caps.

1, 2.2, 4.7, 10, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68, 82, 100, 120, 150, 180, 220, 270, 330, 390, 470, 560, 680, 820, 1000 pF, and .01 & .1 uF. That is a total of 600 caps.

The price? \$30 plus \$4 shipping and handling. How do you order? Send a message to me, Doug Hendricks with NorCal Cap Kit Order in the subject line. I will send you a confirmation message, and then you will need to send a check or money order for \$34 to:

NorCal Cap Kit
Jim Cates
3241 Eastwood Rd.
Sacramento, CA 95821

Please make all checks and money orders to Jim Cates, not NorCal. Also, please enclose a self addressed mailing label to expedite your order. You may order multiple kits, but please include shipping and handling for each kit as they are boxed separately. We have ordered enough caps to make 100 sets, and the caps are due to be shipped to us on Jan. 20th. When I get

them, I will put them in sets and we should be able to ship by the end of the month.

Now is the time to restock or stock the junkbox for those homebrew projects. These work great for Manhattan style construction projects. Thanks for your support. 72, Doug

Date: Wed, 9 Jan 2002 13:02:04 -0700 (MST)
From: "Karl F. Larsen" <k5di@zianet.com>
To: Fred Lesnick <flesnick@tbaytel.net>
Cc: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>
Subject: [117263] Re: Tuesday Night Cub Hunt-WHO STOLE THE BAND
Message-ID: <Pine.LNX.4.33.0201091250090.9468-100000@Daisy.dog>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Hi Fred, I was at a business meeting and at 7:30 PM local 0230 UTC I ducked out and to my Jeep in the parking lot. There I had pre-tuned the antenna tuner and the FT-817 to 7.055 MHz. The Ham Stik is better tuned higher but it works ok.

I looked at 7.059 MHz and it was clear of junk but covered by SSB stations. Tuned lower and found you at last about 7.055 MHz but weak with lots of odd signals on your frequency. Turned up the AF and listened and it was you.

I called up about 2 KHz but no joy, and the frequency was busy. Then called on your frequency and you heard me. That worked out fine and heard you say tu so guess I'm in the log. You might correct it to K5DI/M since I was mobile at the time...

Not sure what happened to the band. The main problem from here was interference from SSB and other odd signals. Well time for a nap here. I am sleepy.

On Tue, 8 Jan 2002, Fred Lesnick wrote:

> AAAAAAAAAaaaaaagggggghhhhh:
> What happend ? Everything was going great , first contact was W0CH at
> 0200z, then the hounds were nipping at my tail , running at a good
> pace, pile up sounded good, then at 0248 z the RF Godz turned the big
> switch, not fair at all..Stayed on the frequency till 0400, and made a

> few but far between contacts.
> Thanks to all who stuck around.
> Worked 57 hounds, AG0T twicw, only cause he dropped to 350mw, and wanted
> to wake me up at 0250 after the band crapped out..
>
> Ok , repoert tomorrow.
> Good night all...
>
> We hit +3 c today, (37 f) not bad for Jan in Northern Ontario....
>
> Fred
> VE3FAL
>

--

Yours Truly,

- Karl F. Larsen, k5di@arrl.net (505) 524-3303 -
<http://www.zianet.com/k5di/>

Date: Wed, 9 Jan 2002 15:07:50 -0500
From: Richard Powell <ripowell@mpna.com>
To: "'qrp-1@lehigh.edu'" <qrp-1@lehigh.edu>
Subject: [117264] Truffle Hunt tomorrow
Message-ID: <01C1991F.68556F70.ripowell@mpna.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

This is on behalf of Daryl, K8FP (Hey /rick, he can't
post via him email account
k8fp@worldnet.att.net) please pass along to QRP-1.

I will be the Truffle tomorrow night at 08:30 EST on
or near 7.044, broadcasting from the great and
omnipotent N8IE Ham Shack with my FT-817 and his
killer G5RV (I will be the one wearing pants).

Exchange will be:
your call, 559, oh, Daryl, 5w, your call, btu

I expect to break the record and become the all time
Truffle King. (Ok, Dan wrote that part) Hope to see
you all there.

72, oo
Daryl, K8FP FP #-54

Date: Wed, 9 Jan 2002 13:08:35 -0700 (MST)
From: "Paul Harden, NA5N" <na5n@rt66.com>
To: qrp-canada@neale.gpfn.sk.ca, qrp-1@lehigh.edu
Subject: [117265] New GALI amplifiers/tutorial
Message-ID: <Pine.SUN.4.10.10201091153510.20833-100000@shell.rt66.com>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Gang,
MiniCircuits has released some new series of parts I have purchased and incorporated into some new QRP designs with very good results. Thought I would pass on the information for those so interested.

This post & tutorial is about the MMIC RF amplifiers. A post on new passive mixers will follow.

GALI AMPLIFIERS are a new series of amplifiers, similar to the MAR and ERA series. These are MMIC amplifiers, with the ERA/MAR being a small 4-lead device for surface mount, and the new GALI is a 3-lead device (input-ground-output) with a metal tab (ground) identical to a surface mount 2N2222/2N3904 ... or looks like a real squashed version of a TO-220 (with a tab on the top and 3 leads on the bottom I had no problem mounting them Manhattan pad style, and really slick using the NJQRP island cutter.

Like all MMIC's, they use a bit more current than we like, the GALI's about 35mA, which really isn't bad for driving +12dBm into a 50 ohm load, such as driver for the PA transistor. They are about \$1 each.

Here's some of the specs:

	FREQ.	GAIN	1dB Compr	IP3	ISOL	Current
GALI-1	DC-8000 MHz	13dB	+12dBm	+27dBm	-17dB	40mA
GALI-2	DC-8000 MHz	16dB	+13	+25	-20	40mA
GALI-3	DC-3000 MHz	22dB	+13	+25	-25	35mA

Specifications explained:

FREQ: The RF and LO inputs are 10MHz to the upper limit listed. The IF output is DC to a bit less than the upper limit listed. And RF/LO below 10MHz works, but other specs not guaranteed.

GAIN: This is the power gain, in dB. 20dB is a power gain of 100, and a voltage gain twice that. Lots of gain.

1dB Compr: (1dB compression) is the input signal level that causes the gain to drop 1dB from it's stated gain. The "compression point" of an amplifier should be avoided, as the tops of the sine wave will get chopped, producing unwanted IMD products to appear on the output. Rule of thumb is to give yourself 6dB of "head room," that is, max. signal should be 6dB below the compression point.

IP3: (3rd order intercept) is a graphical representation of where 3rd order products (like a nearby signal in a receiver) will equal the output level of the desired signal. It is usually 12-16dB higher than the 1dB compression point. It basically represents where serious overload will occur. The higher the better.

ISOL: (Isolation) indicates how much of the output signal is reflected back to the input. This is often overlooked in QRP amplifiers, but can be quite important in some applications, such as an RF amplifier driving a mixer, where some of the LO and IF signals can be on the mixer input pin, which in turn can be reflected back to the input of the amplifier. This would inject LO and IF power back into the RF stages causing IMD products, possible oscillations, etc. The higher the isolation, the better. On many data sheets, this spec is listed under the "S12" s-parameter. Good isolation also indicates the input/output impedances remain fairly stable over different gains and frequencies.

I am using the GAL-2 as an RF amplifier for a 20M receiver, with a 6dB attenuator on the output to limit the gain to 12dB and properly terminate the output to drive a 50-ohm passive double-balanced mixer.

I am also using a GAL-3 following the transmit mixer on a 30M rig, as a 50-ohm 22dB driver for a class E IRF510 PA. It is buffered by an NPN-PNP emitter follower pair before the IRF510 so I could add a variable drive control (from about 400mW to 8W). I used this amplifier here for the high isolation, so the powerful 10.1MHz RF on the output side of the amplifier would not reflect back into the mixer, and hence the VFO, which could cause chirp. My original 2 transistor amplifier did pull the VFO a bit for a slight amount of chirp.

A couple of application examples of how the GALI or any of these small MMIC amplifier can be used and how to interpret the data sheets.

For more information on the MiniCircuit line of MMIC amplifiers, such as the ERA, MAR, VAM and GALI, goto:
<http://www.minicircuits.com>

You can enter the part number directly in the upper right hand search block. Complete data sheets and packaging info.

Date: Wed, 9 Jan 2002 15:08:01 -0500
From: fcsww@juno.com
To: qrp-l@lehigh.edu
Subject: [117266] RE: FS: QRP Rigs and Heathkit Keyer
Message-ID: <20020109.151430.-3672675.3.fcsww@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

The DSW40 and the SST30 are sold.
Still have the SW40+ and the Heathkit Keyer available...
Dick, W2SCF

Date: Wed, 9 Jan 2002 15:20:06 -0500
From: "George Heron N2APB" <n2apb@erols.com>
To: "QRP-L" <qrp-l@lehigh.edu>
Cc: "NJQRP" <njqrp@njqrp.org>
Subject: [117267] re: FS: W2ENY Tuner Module For Icom 706
Message-ID: <001f01c1994b\$0b565a10\$c8ca9cce@GHLTP4>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

If any ICOM IC-706MKII-G owner is questioning the benefit of this \$10 module being offered by Ed, I can surely point out how much I value mine and how I use it.

As many of you will see detailed in an article in the next issue of QRP Homebrewer (it's coming soon, really), I have an IC-706 mounted in my Expedition and use it during the daily commute to work. It's a fabulous diversion from the news or those 'Nsync songs (I drop my 9-yr old daughter off to school on the way in each day. And she now loves to ask "where is that station from?")

I often use a screwdriver antenna on the back of the SUV and need a tuning indicator to accurately adjust the antenna. To do this, I have a Rainbow Tuner mounted in a neat little plastic box and it needs to have some RF power pumped through to the antenna in order that the bright, multi-colored

LED SWR measurement be displayed.

The problem comes about in that it is inconvenient to switch the IC-706 into constant carrier in order to get an SWR measurement while running the screwdriver antenna up/down to resonance. And I really dislike sending a stream of continuous dah's to to the job.

So with the ICOM Tuner Module plugged into the connector on the back of the main rig, just touching the Tuner pushbutton will put out a constant carrier that makes SWR display and antenna tuning a snap. It would work easily well when adjusting one of Vern Wright's MP-1 antennas, which I've also used on a mag mount on the SUV in the past. (But discontinued using the MP-1 on my SUV when I snagged a stop light at an intersection ... just too high when I used the extra long base rod and the 102" steel whip!)

So, long story short ... this little Tuner module allows antenna tuning for what is arguably the most popular mobile HF+6m+VHF rigs on the market.

72/73, George N2APB
n2apb@amsat.org

PS: the Rainbow Tuner kit is also making a return debut, as promised and as outlined in the QHB #7 issue.

PPS: I love my little Rainbow Tuner board, but it sure would be neat to have an SWR meter that indicates null by a lowering of an audible tone pitch? Wouldn't have to take my eyes off the road for tuning.

=====

For Sale: W2ENY Tuner Module for the Icom 706.

Date: Wed, 9 Jan 2002 15:27:39 -0500
From: "George Heron N2APB" <n2apb@erols.com>
To: "QRP-L" <qrp-l@lehigh.edu>
Subject: [117268] re: NorCal Cap Kits Return
Message-ID: <002001c1994c\$17b310e0\$c8ca9cce@GHLTP4>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Just a quick note here to point out the value of NorCal's "re-do" of their

capacitor kit, announced yesterday by KI6DS. If you do any circuit or project construction whatsoever, this is an offer that shouldn't be overlooked.

I purchased three of these kits when NorCal first offered them about 1-2 years ago, and I've since used a good chunk of each in the projects worked on in my shack. As I do a lot of prototyping of new projects, I'm going to order a couple more right now to replenish my stock. (I just *hate* it when I reach for a component and it's not there in the parts bin!)

You really won't be disappointed with this deal, I guarantee it. It's a QRP homebrewer's delight :-)

72/73, George N2APB
n2apb@amsat.org

=====

from Doug Hendricks, KI6DS (ki6ds@dph.dpol.net)
Guys, due to many, many requests, we have decided to do another run of the NorCal Cap kits. Here is what you will get in the kit: 20 of each of the following values, ... [snip]

Date: Wed, 9 Jan 2002 15:34:24 -0500
From: hamjoel@juno.com
To: fpqrp-1@mpna.com, qrp-1@lehigh.edu
Subject: [117269] Ah Done Sumthin Technical
Message-ID: <20020109.153716.-320391.0.hamjoel@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

High Y'all

Let the bells ring, break out the gumbo.... ah done sumthin techincal and neaux smoke....

got me sweating beans heah...stretch mah technical abilities to the limit, I'll tell u man...

I set up mah trusty spectrogram program and was looking at the audio comming outta the filters... the filters were not centered.... I pusted the spot button on my corsair and 750 hz come up outside the middle of the passband...oh my goodness...

A serious search for my glasses went on for a while then a longer search went on for a tuning tool...

then ah had to locate the pbt in the book on the radio... so I had a popcicle and read, had another popcicle and looked at the pictures and

there it was... T4, in series with a crystal and resistor going to a transistor...

so ah got out my handbook and matched the pictures for crystal, resistor, transistor and started looking.... sure nuff ah found the critter... clearly marked f4....

and the tuning tool fitted the top of the coil for adjusting... now do ah geaux left or right.... hmmm
ah looked at the spectrogram and it said ah was right of whare ah wanted to be so ah tunned left.... and shure nuff that picture moved ovah just as pretty...ah got out my ruler and made sure the flat top of the bandpass was just as far left of the 750 hz mrk as it was to the right....ah also remembered ah had put the pass band tuning knob at its detent (centered)..

all what ah got left is to put the cover back on the radio without blowing it all up... oh joy.... ah can see Y some of u guys like this technical stuffs... gets ur heart to pumping....

kella joel
in maine
mainely centered

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Date: Wed, 9 Jan 2002 15:44:57 -0500
From: Richard Powell <ripowell@mpna.com>
To: "'hamjoel@juno.com'" <hamjoel@juno.com>,
"fpqrp-1@mpna.com" <fpqrp-1@mpna.com>,
Subject: [117270] RE: [fpqrp] Ah Done Sumthin Technical
Message-ID: <01C19924.98B51080.ripowell@mpna.com>
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

YEAH!!!!

-----Original Message-----

From: hamjoel@juno.com [SMTP:hamjoel@juno.com]
Sent: Wednesday, January 09, 2002 3:34 PM
To: fpqrp-1@mpna.com; qrp-1@lehigh.edu
Subject: [fpqrp] Ah Done Sumthin Technical

High Y'all

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techincal and neaux smoke....

got me sweating beans heah...stretch mah technical abilities to the limit, I'll tell u man...

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so ah got out my handbook and matched the pictures for crystal, resistor, transistor and started looking.... sure nuff ah found the critter... clearly marked f4....

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in maine
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-To unsubscribe, mail to majordomo@fpqrp.com, msg: unsubscribe fpqrp-l -

Date: Wed, 9 Jan 2002 14:54:15 -0600 (CST)

From: Bruce Rattray <rattray@gpfn.sk.ca>

To: "George, W5YR" <w5yr@att.net>

Cc: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>

Subject: [117271] Re: [GQRP] Altoids, toabcco tins etc

Message-ID: <Pine.LNX.4.33.0201091453010.15949-100000@neale.gpfn.sk.ca>

MIME-Version: 1.0

Content-Type: TEXT/PLAIN; charset=US-ASCII

Gosh George, that's what my doctor said the other day...great minds think alike eh!?!.....Happy New Year!

..72/73 - Bruce (VE5RC+VE5QRP) QRP-C#1 QRP-L#886 ARCI#9683 Zombie#272
A-1 Operator Club - 10/10# 944 - QRP Borg#1 - Whiner#10 -
- VE5QRP SOC#11 - VE5RC SOC#12 - oo#148 - K2#2032 - COG#15 -
- Zone Alarm + AVG Virus Protection -
"QRP! How sweet it is!" "I am da man wit "DAH" paddle!"

On Wed, 9 Jan 2002, George, W5YR wrote:

> Bruce, have you considered getting a hobby?
k

Date: Sun, 6 Jan 2002 17:49:43 -0800
From: "Bill Jones" <kd7s@psnw.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>
Subject: [117272] Upcoming SM Kit?
Message-ID: <000701c1971d\$94dde3a0\$288b6bd1@microsoft>
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

The rumors have been flying for several months hinting at the possibility of a new surface mount kit soon to be released. Would whoever is behind things be willing to give us some kind of time frame two weeks two months two years?

=====
Bill Jones - KD7S <><
Sanger, California
=====

Date: Wed, 09 Jan 2002 15:54:09 -0500
From: Pete Burbank <plburbank@kih.net>
To: qrp-l@lehigh.edu
Subject: [117273] Fwd: 100kHz calibrator
Message-ID: <5.0.2.1.0.20020109155150.00b02a70@KIH.net>
Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"; format=flowed

I'm posting this for Bill, N4ALG. Please reply direct to him.
73 Pete NV4V

>WTB: Crystal Calibrator kits

>

>At one time someone on the list was producing circuit boards (and, kits?)
>for a crystal calibrator. Seems like it used a color burst xtal and a
>divider chain to give 1mHz, 100kHz, 25kHz, 10kHz, 5kHz and 1kHz outputs. I
>would like to pick up a couple of these for projects. Can someone direct
>me to the source?

>

>73 bill n4alg
>bcotter@pop.uky.edu

>

Date: Wed, 09 Jan 2002 21:19:31 +0000

From: k8cz@att.net

To: Richard Powell <ripowell@mpna.com>

Cc: "'hamjoel@juno.com'" <hamjoel@juno.com>,
"fpqrp-l@mpna.com" <fpqrp-l@mpna.com>,

Subject: [117274] RE: [fpqrp] Ah Done Sumthin Technical

Message-ID:

<20020109211932.YBOG5540.mtiwmhc21.worldnet.att.net@webmail.worldnet.att.net>

Gawd, I just love it when Joel talks like that.

--

73,72, 00

FP #41 NJQRP #338 Fists #2360

ARCI #9606 SOC #336 Norcal ARRL

Hamilton, Ohio EM79ri

Tom, K8CZ

> YEAH!!!!

>

> -----Original Message-----

> From: hamjoel@juno.com [SMTP:hamjoel@juno.com]

> Sent: Wednesday, January 09, 2002 3:34 PM

> To: fpqrp-l@mpna.com; qrp-l@lehigh.edu

> Subject: [fpqrp] Ah Done Sumthin Technical

>

> High Y'all

> Let the bells ring, break out the gumbo.... ah done sumthin
> techincal and neaux smoke....
> got me sweating beans heah...stretch mah technical abilities to the
> limit, I'll tell u man...
> I set up mah trusty spectrogram program and was looking at the
> audio comming outta the filters...
> the filters were not centered.... I pusted the spot button on my corsair
> and 750 hz come up outside the middle of the passband...oh my goodness...
> A serious search for my glasses went on for a while then a longer
> search went on for a tuning tool...
> then ah had to locate the pbt in the book on the radio... so I had a
> popcicle and read, had another popcicle and looked at the pictures and
> there it was... T4, in series with a crystal and resistor going to a
> transistor...
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> detent (centered)..
> all what ah got left is to put the cover back on the radio
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> kella joel
> in maine
> mainly centered
> -----
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> -To unsubscribe, mail to majordomo@fpqrp.com, msg: unsubscribe fpqrp-l -
> -To unsubscribe, mail to majordomo@fpqrp.com, msg: unsubscribe fpqrp-l -

Date: Wed, 9 Jan 2002 13:26:12 -0800
From: "Doug Hendricks" <ki6ds@dph.dpol.net>
To: <qrp-l@Lehigh.EDU>
Subject: [117275] Re: Upcoming SM Kit?
Message-ID: <039201c19954\$46b8bfe0\$4a0b0d0a@dph.dpol.net>
MIME-Version: 1.0

Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Bill, I guess I will sheepishly step forward and say within a month. 72,
Doug

Date: Wed, 09 Jan 2002 21:27:50 +0000
From: "Jim Larsen" <al7fs2001@hotmail.com>
To: qrp-1@lehigh.edu
Subject: [117276] Filters not centered...Spectrogram...adj. to the middle of the
passband
Message-ID: <F151FFK7dcLdZs3JcXu00018510@hotmail.com>
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

Yep, interesting post, Joel. I will have to try that some time...like with
my K2 when I finish it.

73, Jim, AL7FS

----- Original Message -----
Subject: Ah Done Sumthin Technical
Date: Wed, 09 Jan 2002 15:34:24 -0500
From: hamjoel@juno.com
Reply-To: hamjoel@juno.com
To: Low Power Amateur Radio Discussion <qrp-1@Lehigh.EDU>

High Y'all

Let the bells ring, break out the gumbo.... ah done sumthin
techincal and neaux smoke....
got me sweating beans heah...stretch mah technical abilities to the
limit, I'll tell u man...

I set up mah trusty spect
Jim Larsen, AL7FS, Anchorage, Alaska
(BP51cc) - 61.101 North, 149.824 West
mailto:al7fs@arrl.net
<http://www.qsl.net/al7fs/>

Get your FREE download of MSN Explorer at <http://explorer.msn.com/intl.asp>.

Date: Wed, 9 Jan 2002 21:27:40 +0000
From: euramcom pages <mel@euramcom.freemove.co.uk>
To: <qrp@yahoogroups.com>
Cc: <qrp-l@lehigh.edu>
Subject: [117277] denco coils
Message-ID: <T58598f0aefac1785e725f@pcow029o.blueyonder.co.uk>
Mime-Version: 1.0
Content-Type: text/plain; charset="iso-8859-1"
Content-Transfer-Encoding: quoted-printable

Hi Gangues (both)

Shack Clearing has started, see e-bay uk ham radi sections for=
some
stuff.

Came across 2 Denco booklets/info things

1) Tech Bulletin DTB4 for MaxiQ coils, Transistor and Miniature =
Dual
Purpose Coils 18pp of circuits, info etc

2) General Catalogue of Components, lists sizes, drilling specs=
and
so on. 12pp worth A4ish size.

Anyone want these before they end up in the skip? Send me an=
e-mail
first and I'll pick one at random. Then the winner? sends me a=

SASE, A4 size with 3 x 2nd class stamps to cover postage

Regards

Mel

Date: Wed, 09 Jan 2002 21:57:39 +0000
From: "Jim Larsen" <al7fs2001@hotmail.com>
To: qrp-l@lehigh.edu
Cc: lujce@lehigh.edu
Subject: [117278] Test QRP-L again de AL7FS. No hope.
Message-ID: <F58oHzGkzMcvsq9IcVu000184ed@hotmail.com>
Mime-Version: 1.0
Content-Type: text/plain; format=flowed

Nope. Still doesn't work. And so far nobody knows how to contact Jim Eshleman. <Sigh>

Maybe the US Post Office would work. Ok, off to QRZ.COM.

I would guess there are at least a half dozen others out there who are in the same boat based on private emails.

73, Jim, AL7FS

Subject: Test QRP-L again de AL7FS
Date: Wed, 09 Jan 2002 12:37:01 -0900
From: Jim Larsen - AL7FS <al7fs@pobox.alaska.net>
To: "qrp-l@lehigh.edu" <qrp-l@lehigh.edu>

I have changed my identity email address from arrl.net to pobox.alaska.net

It has been over three weeks since I have been able to post to QRP-L direct from my Netscape email.

This is only a test. Had this been an actual.....

73, Jim

--

Jim Larsen, AL7FS, Anchorage, Alaska
(BP51cc) - 61.101 North, 149.824 West
mailto:al7fs@arrl.net - <http://www.qsl.net/al7fs/>

Chat with friends online, try MSN Messenger: <http://messenger.msn.com>

Date: Wed, 9 Jan 2002 17:03:28 -0500
From: hamjoel@juno.com
To: fpqrp-l@mpna.com, qrp-l@lehigh.edu
Subject: [117279] no smoke!
Message-ID: <20020109.170329.-320391.0.hamjoel@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Ah gots the cover back on the radio and done a check with spectrogram and the adjustment looks right and no smoke...

geezzzzze the last time ah piddled with a live radio we had the fired department pay us a visit... volunteers all... they left us a token fire extinguisher in case ah had need to work on the radio again... had it ready today... but no smoke.... Yea....

ke1la joel
in maine
smokeless

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<http://dl.www.juno.com/get/web/>.

Date: Wed, 09 Jan 2002 22:08:41 +0000

From: Larry Cahoon <lejek@erols.com>

To: qrp-l@lehigh.edu

Subject: [117280] Power Management Contest

Message-ID: <5.1.0.14.0.20020109220408.021cccd0@pop.erols.com>

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"; format=flowed

Reminder - this weekend is the Power Management Contest.

Power Management Contest (CW)

Jan 12 - 1800z to Jan 13 - 0600z

Rules: <http://www.qsl.net/wd3p/qrp/pwrcontest/pwrcontest.htm>

"NAQP Piggyback to see how long your battery runs down"

I had one question on it with regards to using a turner. The basic rules say one set of 10 AA batteries and that is it. I have loosened up for battery powered keyers. After all some of them are really not amendable to running off of a set of AA batteries. But I'm not going to open it up to tuners. So if you use a tuner it must run off of the same set of AA battereis.

As an example of what can be done - last August I ran of 107 QSOs durring the contest, and still had battery power to spare.

So give it a shot. I would like to see more activity than I saw last August.

73 de Larry.....WD3P in MD

<http://www.qsl.net/wd3p/>

Date: Wed, 09 Jan 2002 17:41:09 -0500
From: Ed Kessler <edkess@pa.net>
To: Low Power Amateur Radio Discussion <qrp-l@Lehigh.EDU>
Subject: [117281] Tuner Module and Amp are SOLD!
Message-ID: <5.0.2.1.0.20020109174031.00a260e0@mail.pa.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

Thanks for the inquiries.

73
Ed AA3SJ

Date: Wed, 9 Jan 2002 18:08:05 -0500
From: "Howard Kraus" <K2UD@adelphia.net>
To: <al7fs2001@hotmail.com>
Cc: <qrp-l@Lehigh.EDU>
Subject: [117282] Re: Test QRP-L again de AL7FS. No hope.
Message-ID: <000901c19962\$7ebdd7a0\$07633018@buf.adelphia.net>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Same here Jim, I tried to contact Jim Eshelman several times, most recently, today. No replies at all. Others have, I wonder how. I've tried him at lujce@Lehigh.EDU.

I'm cc'ing this to the list in general. If it should somehow show up on the list, could someone please send Jim Eshelman an e-mail at the above address and indicate that all my e-mails to him are apparently being blocked somewhere, and that all my posts to the list are also? I am subscribed, and do receive daily postings. It appears that e-mails from my ISP are being blocked somewhere, where I don't know.

TNX to all es GL to Jim Larsen!

72

Howard Kraus, K2UD
----- Original Message -----
From: "Jim Larsen" <al7fs2001@hotmail.com>
To: "Low Power Amateur Radio Discussion" <qrp-l@Lehigh.EDU>

Sent: Wednesday, January 09, 2002 4:57 PM
Subject: Test QRP-L again de AL7FS. No hope.

> Nope. Still doesn't work. And so far nobody knows how to contact Jim
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>
> Maybe the US Post Office would work. Ok, off to QRZ.COM.
>
> I would guess there are at least a half dozen others out there who are in
> the same boat based on private emails.
>
> 73, Jim, AL7FS
>
>
> Subject: Test QRP-L again de AL7FS
> Date: Wed, 09 Jan 2002 12:37:01 -0900
> From: Jim Larsen - AL7FS <al7fs@pobox.alaska.net>
> To: "qrp-l@lehigh.edu" <qrp-l@lehigh.edu>
>
> I have changed my identity email address from arrl.net to
> pobox.alaska.net
>
> It has been over three weeks since I have been able to post to QRP-L
> direct from my Netscape email.
>
> This is only a test. Had this been an actual.....
>
> 73, Jim
> --
> Jim Larsen, AL7FS, Anchorage, Alaska
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> mailto:al7fs@arrl.net - <http://www.qsl.net/al7fs/>
>
>
>
> -----
> Chat with friends online, try MSN Messenger: <http://messenger.msn.com>
>

Date: Wed, 9 Jan 2002 16:46:22 -0700 (MST)
From: "Paul Harden, NA5N" <na5n@rt66.com>
To: qrp-canada@neale.gpfn.sk.ca, qrp-l@lehigh.edu
Subject: [117283] New ADE mixers/tutorial
Message-ID: <Pine.SUN.4.10.10201091347540.21319-1000000@shell.rt66.com>

MIME-Version: 1.0

Content-Type: TEXT/PLAIN; charset=US-ASCII

Gang,

The ADE series of mixers, from MiniCircuits, is a very economical double balanced mixer. The ADE-1 has been used in a couple of projects, such as the NJQRP/K8IQY 17M Converter a while back. They are about \$3-4 in small quantities.

The ADE-1 is a LEVEL 7 mixer, meaning it is designed (and the specifications based upon) an LO drive of +7dBm, which is about 1.5Vpp into 50 ohms (a fair bit of power). A lot of QRPers tend to shy away from using these passive double balanced mixers (DBM) because of the fairly high LO drive required. However, they can be used successfully with lower drive levels. The effect will be the conversion loss and port-to-port isolation (defined below) will get worse, but since we are using these devices at the very bottom of their 1GHz range, the effects are minimal. I have used several LEVEL 7 mixers by driving the LO port with a single transistor crystal oscillator, delivering about 800mVpp (about +3dBm into 50 ohms) with good results.

Things just got easier with the introduction by MiniCircuits of a couple of LOW POWER ADE mixers, the ADE-1L and ADEX-10L.

The specs on these DBM's are:

	RF/LO FREQ	IF FREQ	LO DRIVE	CONVERSION LOSS		ISOLATION	
				@+7dBm	@+4dBm	LO-RF	LO-IF
ADE-1	0.5-500 MHz	DC-500MHz	+7dBm	5.0dB	5.2dB	66dB	55dB
ADE-1L	2-500	DC-500	+3	4.9	5.3*	69	57
ADEX-10L	10-1000	DC-800	+4	---	7.3	83	58
SBL-1 (ref)	1-500	DC-500	+7	5.6	5.9	62	62

* Conversion loss listed for +3dBm drive on the ADE-1L

Definitions:

RF/LO FREQ: Range of the RF and LO frequencies for stated specs. Mixers can be operated below lowest frequency cited with some degradation of conversion loss and port-port isolation values.

IF FREQ: Output range of the IF frequencies. All DBM's will allow an IF down to DC, as they are also used as phase detectors (a dc voltage representing a very small difference between the LO and RF ports). This allows them to be used as a product detector as well (audio frequencies).

LO DRIVE: Recommended LO drive level, and the level for which the other specifications are based. Note that on the LEVEL 7 mixers, the slight degradation of specs when operated at a lower LO drive. (Can you measure 0.3dB on your home non-linoleum covered workbench?)

On the otherhand, if you drive a LEVEL 3 mixer with $\approx +7\text{dBm}$ LO, the conversion loss and isolation improves, so it won't hurt to use a lower drive device in a circuit originally designed for LEVEL 7's.

CONVERSION LOSS is the loss in dB from the RF input signal to the IF output. As a general rule of thumb, most DBM's have a conversion loss in the 5-7dB range. This is easily made up by a post-mixer IF amplifier. Note that the conversion loss is listed for both Level 7 and Level 4 mixers, to show the slight difference in driving a Level 7 mixer with only +3 or +4dB of drive. Figures are based on the data sheet values for 5-10MHz. In the case of the Level 3 or 4 mixers, driving them at Level 7 will improve the loss a bit.

ISOLATION lists the port-to-port isolation of the device.

RF-LO: The attenuation of power from one port to the other. Values shown are for the intended LO drive for that device.

For example, with +7dBm LO drive on the ADE-1, there is -66dB of isolation to the RF port, or -59dBm of LO power. However, in a direct-conversion receiver, this -59dBm of LO power appearing on the RF port equates to a fairly strong signal still! In a superhet receiver, it is normally far enough removed from the RF frequency to be of little concern.

LO-IF: the attenuation of the LO port power to the IF port, and vice versa. On the ADE-1 with +7dBm LO drive, and -55dB isolation, -48dBm LO power could appear on the IF port. For a receive or transmit mixer, not a concern, but if used as a product detector or direct conversion receiver, this could present a problem with reciprocal mixing products.

In the "ideal mixer," there would be absolutely no RF or LO appearing on the IF output, or absolutely no LO power appearing on the RF port. In the real world, however, it's not quite this clean. Thus, the isolation specs are important for identifying the "real world" leakage in the mixer.

HOWEVER ... no matter how lousy the isolation specs may be on a DBM, it's still tens of dB better than an active mixer like the NE612!!!

Now notice the specs again for the new ADEX-10L. It is designed for only +4dBm of LO drive, which is 355mVrms or about 1Vpp on a scope. I am currently using an ADE-1L (+3dBm LO drive) for a receive mixer in a 20M receiver, and as the transmit mixer in a 30M prototype. I am easily driving both of them with a single transistor crystal oscillator, feeding the LO port via a 47 ohm resistor and .1uF cap for an approximate 50 ohm match. This scheme delivers about 1Vpp to the ADE-1L LO port, or at the design spec. This prevents having to add a buffer driver transistor.

On the 30M transmit mixer, I use a 12MHz crystal oscillator and a 1.9MHz VFO input to generate the 10.1MHz IF output for the transmitter. The ADE-1 and ADE-1L provide a nice clean output at 10.1 MHz, but there is

a little 1.9MHz amplitude modulation on it ... due to the VFO (L0) port power leaking into both the L0 (12MHz) and IF (10.1MHz) ports. This 1.9MHz modulation shows up at the antenna terminals, following the class C PA on a spectrum analyzer, which is unwanted power. It is knocked way down on the class E version of the PA, since the 10.1MHz from the mixer is amplified and turned into a square wave by a high speed comparator, effectively removing the 1.9MHz element. This port-to-port leakage is such that on an o-scope, you can see 12MHz on the 1.9MHz VFO output, and 1.9MHz right at the 12MHz crystal oscillator. What is needed, is a bit more port-to-port isolation in the mixer. (As stated above, this is nothing compared to the poor port-to-port isolation offered by the NE612).

But look at the specs of the new ADEX-10L. It has an L0-RF port isolation of 80dB! That's 15dB or so better than most passive mixers. As I write this, I have a half-dozen ADEX-10L's on their way to me from MiniCircuits, and can't wait to try them out in the above two mentioned circuits. They are listed at \$2.95 each, or about the cost of an NE602. Granted, you have to add another \$1-2 in parts for building the L0 oscillator, but you end up with a far better mixer for a receive or transmit mixer.

The moral of the story is ...

Don't shy away from using these passive mixers. You can often buy the older versions (SBL, SRA, TUF, etc.) at hamfests quite cheap. Even though they are LEVEL 7 mixers, driving them from a single transistor oscillator at only .8-1Vpp causes little degraded performance in the HF part of their frequency range. And while a DBM will LOOSE power in the mixing process (conversion loss), the much higher port-to-port isolation does much to prevent chirping, pulling of the VFO and other effects experienced by the active mixers.

For new designs, I would consider one of the Level 3 or 4 mixers now being offered, such as the ADE-1L and ADEX-10L listed above. They are a surface mount device with 6-pins, but mounted very nice Manhattan style and even better with the NJQRP island cutter technique, as it lays flush against the board (good for the ground connections). The pins are on 0.1" centers, so not much difference than soldering an LM386 or something down Manhattan style.

The only caution I have with the ADE series, is they are not hermetically sealed ... that is, the bottom side of the device is open and you can clearly see the microscopic toroids and stuff in there, terminated to the little pins. I have yet to remove an ADE mixer from a prototype board without melting off one of the pins :-(They are great little mixers, but pretty much a one shot thing, unless you have access to a SMC unsoldering station. So position them carefully where you want it, as that's where they best should stay -hi. Other than blasting a bunch

of power into a DBM (like watts of power), these things are virtually undestructable. There should be no reason to every replace them, except for piddling around with them like me :-)

For more information on these MiniCircuit DBM mixers, goto:
<http://www.minicircuits.com> for some great data sheets and application notes.

BTW, their chief applications engineer is Jerry, WA0KNW!

72, Paul NA5N

End of QRP-L Digest 2431

